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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/379,596	05/26/2000	Lloyd F. Linder	PD-99W166	8433

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EXAMINER

ODOM, CURTIS B

ART UNIT

PAPER NUMBER

2634

DATE MAILED: 07/11/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/579,596

Applicant(s)

LINDER ET AL.

Examiner

Curtis B. Odom

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 May 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-3, 8-10, 14, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Tomasz et al. (U.S. Patent No. 6, 031, 878).

Regarding claim 1, Tomasz et al. discloses a signal processing system comprising:

first means (Fig. 2, blocks 68 and 70, column 3, lines 29-44) for distributing an input signal between two or more channels in a current mode of operation;

second means (Fig. 2, block 102, column 4, lines 34-36) disposed in each of the channels for processing the input signal and providing an output signal in response thereto;

third means (Fig. 2, block 78, column 4, lines 58-67 and column 5, lines 1-10) for combining the signals output by the processing means; and

fourth means (Fig. 2, block 78, column 3, lines 30-35 and 61-67, column 4, lines 58-67 and column 5, lines 1-10) for controlling the first and third means, wherein the signal labeled CAR controls the first means and the DSP controls the third means.

Regarding claim 2, which inherits the limitations of claim 1, Tomasz et al. further discloses a radio frequency stage for down-converting a received signal and providing the input signal in response thereto (Fig. 2, LNB block, column 2, lines 64-67 and column 3, lines 1-3).

Regarding claim 3, which inherits the limitations of claim 1, Tomasz et al. further discloses the first means includes a mixing circuit (column 3, lines 29-44).

Regarding claim 8, which inherits the limitations of claim 3, Tomasz et al. further includes means for mixing the input signal with a mixing signal (Fig. 1, block 36, column 1, lines 42-52), wherein the oscillator provides a mixing signal to the mixer.

Regarding claim 9, which inherits the limitations of claim 8, Tomasz et al. further discloses the mixing circuit operates in a current mode (column 3, lines 29-44).

Regarding claim 10, which inherits the limitations of claim 11, Tomasz et al. further discloses means for mixing the input signal with plural mixing signals (Fig. 2, block 90, column 12, lines 12-21).

Regarding claim 14, which inherits the limitations of claim 1, Tomasz et al. further discloses the second means includes first and second filters disposed in a first and a second of the channels respectively (Fig. 2, block 102, column 4, lines 34-36).

Regarding claim 16, the claimed method includes features that correspond with subject matter mentioned above in the rejection of claim 1 is applicable hereto.

Claim Rejections - 35 USC § 103

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3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz et al. (U.S. Patent No. 6, 031, 878).

Regarding claim 4, which inherits the limitations of claim 3, Tomasz et al. discloses providing AGC for each of the channels individually (Fig. 1, block 52, column 1, lines 60-67) does not disclose the mixing circuit includes the means for providing AGC for each of the channels individually. However, it would have been obvious to one skilled in the art at the time the invention was made that the AGC could have been implemented into the mixer. Thus, the mixer including the AGC is deemed a design choice and does not constitute patentability.

Regarding claim 5, which inherits the limitations of claim 4, Tomasz et al. further discloses means for providing AGC operates in a current mode (column 1, lines 60-67).

Regarding claim 6, which inherits the limitations of claim 5, Tomasz et al. further discloses the means for providing AGC includes a digital AGC circuit (column 1, lines 60-67).

Regarding claim 7, which inherits the limitations of claim 6, Tomasz et al. discloses providing differential digital ACG control signals (column 1, lines 60-67), but does not disclose providing these signals in response to a channel select signal. However, it would have been obvious to one skilled in the art at the time the invention was made that since the DSP is programmable (column 4, lines 64-67 and column 5, lines 1-10) that it could have been

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programmed to provide the AGC signal in response to a channel select signal. Thus, claim 7, does not constitute patentability.

5. Claims 11-13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tomasz et al. (U.S. Patent No. 6, 031, 878) in view of Nash et al. (U. S. Patent No. 6, 397, 044).

Regarding claim 11, Tomasz et al. discloses all the limitations of claim 11 (see rejection of claim 10), except the mixing circuit includes at least one Gilbert cell.

However, Nash et al. discloses that it is conventional for mixers to include a Gilbert cell (column 1, lines 54-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the mixer of Tomasz et al. could have been modified with the Gilbert cell taught by Nash et al. since it is conventional practice and well known in the art.

Regarding claim 12, which inherits the limitations of claim 11, Tomasz et al. discloses an amplifier (Fig. 2, blocks 92, 94, 96, 98, column 4, lines 22-24) but does not disclose the amplifier is transconductance or incorporated in the mixing circuit. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the amplifiers of Tomasz et al. could have been implemented into the mixers to amplify the mixed signal. The amplifiers would perform the same function as transconductance amplifiers in amplifying the mixed signal. Thus, the amplifier being transconductance and incorporated into the mixer is deemed a design choice and does not constitute patentability.

Regarding claim 13, which inherits the limitations of claim 12, Tomasz et al. discloses an AGC (Fig. 1, block 52, column 1, lines 60-67) does not disclose the mixing circuit includes the AGC. However, it would have been obvious to one skilled in the art at the time the invention

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was made that the AGC could have been implemented into the mixer. Thus, the mixer including the AGC is deemed a design choice and does not constitute patentability.

Regarding claim 15, Tomasz et al. discloses a receiver comprising:

a radio frequency stage for down-converting a received signal and providing the input signal in response thereto (Fig. 2, LNB block, column 2, lines 64-67 and column 3, lines 1-3);

first means (Fig. 2, blocks 68 and 70, column 3, lines 29-44) for distributing an input signal between two or more channels in a current mode of operation, the first means including a mixing circuit having

an AGC control circuit (Fig. 1, block 52, column 1, lines 60-67) for each channel in communication with a respective mixer

a transconductance amplifier (Fig. 2, blocks 92, 94, 96, 98, column 4, lines 22-24) in communication with the AGC circuit, wherein the amplifier can be transconductance;

second means (Fig. 2, block 102, column 4, lines 34-36) disposed in each of the channels for processing the input signal and providing an output signal in response thereto, second means including first and second filters disposed in a first and a second of the channels respectively (Fig. 2, block 102, column 4, lines 34-36);

third means (Fig. 2, block 78, column 4, lines 58-67 and column 5, lines 1-10) for combining the signals output by the processing means; and

fourth means (Fig. 2, block 78, column 3, lines 30-35 and 61-67, column 4, lines 58-67 and column 5, lines 1-10) for controlling the first and third means, wherein the signal labeled CAR controls the first means and the DSP controls the third means.

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Tomasz et al. does not disclose the mixer includes a Gilbert cell. However, Nash et al. discloses that it is conventional for mixers to include a Gilbert cell (column 1, lines 54-55). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the mixer of Tomasz et al. could have been modified with the Gilbert cell taught by Nash et al. since it is conventional practice and well known in the art.


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Curtis B. Odom whose telephone number is 703-305-4097. The examiner can normally be reached on Monday- Friday, 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin can be reached on 703-305-4714. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Curtis Odom
July 3, 2003


STEPHEN CHIN
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